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10/785,426

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Ru-Shang Wang

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EXAMINER

HOLDER, ANNER N

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/785,426	Applicant(s) WANG ET AL.	
	Examiner ANNER HOLDER	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>03/30/09</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 27-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 27-32 recite "video information" which does not impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se. Non-functional descriptive is non-statutory regardless of whether it is claimed as residing on a computer readable medium.

3. Claim(s) 1-6 and 25 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent and recent Federal Circuit decisions indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not

qualify as a statutory process. For example the method for transmitting video information from an encoder including the steps of "forming", "arranging" and "encoding" is of sufficient breadth that it would be reasonably interpreted as a series of steps completely performed mentally, verbally, or without a machine. The Applicant has not tied the method for transmitting video information from an encoder including the steps of "forming", "arranging" and "encoding" to a particular apparatus to perform the method as claimed.

The Applicant has provided no explicit and deliberate definitions "forming", "arranging" and "encoding" to limit the steps to the electronic form of the method, and the claim language itself is sufficiently broad to read on a printout, mentally stepping through the § 101 analysis.

[1] *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).
[2] *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

Response to Arguments

4. Applicant's arguments, see page 16, filed 03/26/09, with respect to the rejection(s) of claim(s) 14-5, 10-11, 16-17, 22-23, 25-26 and 30-31 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dalby et al. US 6,002,440 and Gaylord US 6,956,600 B1.

5. Applicant's arguments, see page 15 ¶ 3, filed 03/30/09, with respect to the specification have been fully considered and are persuasive. The objection of the specification has been withdrawn.

6. Applicant's arguments filed 03/26/09 have been fully considered but they are not persuasive. Regarding the Applicant's arguments the Examiner respectfully disagrees. fig. 7 discloses the frames are grouped by frame type and successive frames are encoding depending upon frame type I frames by intra coding and p and b frames by second encoding method inter frame. [fig. 7; col. 8 lines 52-58]

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-3, 6, 7-9, 12, 13-15, 18, 19-21, 24, and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalby et al. US 6,002,440.

9. As to claim 1, Dalby teaches forming a plurality of switching frames into said bitstream; [figs. 3-4; col. 5 lines 32-53] arranging macroblocks of each switching frame of said plurality of switching frames into a first group of macroblocks and a second

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group of macroblocks; [col. 5 lines 32-53] encoding each macroblock of said first group of macroblocks in said each switching frame by a first encoding method to provide a switching point for continuing transmission of video information with another bitstream formed from the video information; [figs. 3-4; col. 5 lines 41-53] and encoding macroblocks of said second group of macroblocks by a second encoding method wherein successive switching frames of said switching frames do not have corresponding groups of macroblocks encoded by said first encoding method. [figs. 3-4; col. 5 lines 41-53; col. 6 lines 12-40; fig. 7; I frames are encoded by intra frame while successive p and b frames are encoded by inter frame encoding method]

10. As to claim 7, see rejection of claim 1 above.

11. As to claim 13, see rejection of claim 1 above.

12. As to claim 19, see rejection of claim 1 above.

13. As to claim 27, see rejection of claim 1 above.

14. As to claim 2, Dalby teaches encoding said first group of macroblocks by an intra encoding method. [col. 4 lines 56-65]

15. As to claim 8, see rejection of claim 2 above.

16. As to claim 14, see rejection of claim 2 above.

17. As to claim 20, see rejection of claim 2 above.

18. As to claim 28, see rejection of claim 2 above.

19. As to claim 3, Dalby teaches encoding said second group of macroblocks by a predictive encoding method. [col. 5 lines 4-27]
20. As to claim 9, see rejection of claim 3 above.
21. As to claim 15, see rejection of claim 3 above.
22. As to claim 21, see rejection of claim 3 above.
23. As to claim 29, see rejection of claim 3 above.
24. As to claim 6, Dalby teaches forming an intra encoded frame from a frame of said set of frames, forming switching predictive encoded frame from a frame following said intra encoded frame, and forming said at least one switching frame from a frame following said switching predictive encoded frame. [figs. 3-4; col. 5 lines 32-53]
25. As to claim 12, see rejection of claim 6 above.
26. As to claim 18, see rejection of claim 6 above.
27. As to claim 24, see rejection of claim 6 above.
28. As to claim 32, see rejection of claim 6 above.
29. As to claim 33, Dalby means for forming a plurality of switching frames into said bitstream; [figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] grouping means for arranging macroblocks of each switching frame of said plurality of switching frames into a first group and a second group of macroblocks; [figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] first encoding means for encoding each macroblock of said first group of macroblocks in said each switching frame by a first encoding method to provide a switching point for continuing transmission of video information with another bitstream

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formed from the video information; [figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] and second encoding means for encoding macroblocks of said second group of macroblocks in said each switching frames by a second encoding method wherein the successive switching frames of said plurality of switching frames do not have corresponding groups of macroblocks encoded by said first encoding method. [figs. 3-4; col. 5 lines 41-53; col. 6 lines 12-40; fig. 7; I frames are encoded by intra frame while successive p and b frames are encoded by inter frame encoding method]

30. As to claim 34, Dalby an input for inputting successive frames of video information in a received signal having information on an encoding method of a group of macroblocks of each frame; [figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] first prediction block configured for decoding each macroblock of said group of macroblocks by a first decoding method corresponding to a first encoding method when said information indicates that said group of macroblocks have been encoded by the first decoding method; [figs. 1-2; col. 4 lines 13-42; col. 8 lines 11-25] and second prediction block configured for decoding each macroblock of said group of macroblocks by a second decoding method corresponding to a second encoding method when said information indicates that said group of macroblocks have been encoded by the second decoding method wherein the successive switching frames do not have corresponding groups of macroblocks encoded by said first encoding method. [figs. 1-2; col. 4 lines 13-42; col. 8 lines 11-25; fig. 7; I frames are encoded by intra frame while successive p and b frames are encoded by inter frame encoding method]

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31. Claims 4-5, 10-11, 16-17, 22-23, 25-26, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dalby et al. US 6,002,440 in view of Gaylord US 6,956,600 B1.

32. As to claim 4, Dalby teaches the limitations of claim 1.

Dalby does not explicitly teach slices.

Gaylord teaches slices. [col. 1 lines 31-53; fig. 1]

It would have been obvious to one of ordinary skill in the art to incorporate the teachings of Gaylord with the device of Dalby allowing for the reduction of errors and artifacts during video transmission.

33. As to claim 10, see rejection of claim 4 above.

34. As to claim 16, see rejection of claim 4 above.

35. As to claim 22, see rejection of claim 4 above.

36. As to claim 30, see rejection of claim 4 above.

37. As to claim 5, Dalby (modified by Gaylord) teaches forming at least a first switching frame and a second switching frame into said bitstream, the switching frames being divided into mutually similar groups of macroblocks with each macroblock of the first switching frame having a spatially respective macroblock in said second switching frame; [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] arranging macroblocks of said first switching frame into said first group and said second group of macroblocks; [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] arranging macroblocks of said second switching frame into said first group and said second group of macroblocks so

that the macroblocks of said first group of macroblocks of said second switching frame are spatially different macroblocks than the macroblocks of said first group of macroblocks of said first switching frame; [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] encoding each macroblock of said first group a plurality of switching frames and said first group of macroblocks of said second switching frame by a first encoding method to provide a switching point for continuing the transmission of video information with said other bitstream formed from the video information; [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] and encoding macroblocks of said second group and of said first switching frame and said second group of macroblocks of said second switching frame by another encoding method. [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42]

38. As to claim 11, see rejection of claim 5 above.

39. As to claim 17, see rejection of claim 5 above.

40. As to claim 23, see rejection of claim 5 above.

41. As to claim 31, see rejection of claim 5 above.

42. As to claim 25, Dalby (modified by Gaylord) teaches forming at least one switching predictive encoded frame into said bitstream by predictively encoding the macroblocks of the frame; [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] replacing part of the switching predictive encoded macroblocks with macroblocks encoded by an intra encoding method; [Dalby - figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42] and transmitting a frame containing both predictively encoded macroblocks and

intra encoded macroblocks instead of said switching predictive encoded frame. [Dalby -
figs. 2-4; col. 5 lines 32-53; col. 4 lines 13-42]

43. As to claim 26, see rejection of claim 25 above.

Conclusion

44. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (US 7,046,910 B2); Wu et al. (US 6,804,301); Wilkinson (US 6,160,844); Le Roux et al. (US 6,618,438); Luthra et al. (US 6,434,195); Thoreau et al (US 6,393,057); Karczewicz et al. (US 6,765,693); Saunders et al. (US 6,529,555).

45. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-Th, M-F 8 am - 3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/

Examiner, Art Unit 2621

/Tung Vo/

Primary Examiner, Art Unit 2621

